

REMARKS

Claims 1 and 3-5 were examined in the Final Office Action mailed April 6, 2007, with claim 6 standing withdrawn pursuant to Election/Restriction Requirement.

The following objections are rejections are pending:

- Objections to claims 1 and 3 for informalities.
- Rejection of claim 3 under 35 U.S.C. § 112, second paragraph, for lack of antecedent basis for the “means” term.
- Rejection of claims 1 and 3-5 under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 6,120,622 to Mayr, *et al.* (“Mayr”).

The Applicants respectfully submit the foregoing amendments and following remarks.

The Applicants are requesting entry of amendments to claims 1 and 3 to resolve the informalities (claim 1 to be amended to recite “the first component of the two components”; claim 3 to be amended to add the missing comma), and to resolve the claim 3 antecedent basis issue (reciting “means for axial displacement and adjustment”). Entry of these amendments is respectfully requested.

As to the rejection based on Mayr, the Applicants respectfully traverse the pending rejection on the ground that this reference does not disclose the invention recited in claims 1 and 3-5.

As noted in the Applicants’ December 22, 2006 response, the present invention is directed to a novel arrangement for sealing a gap between an end of a shaft and an adjacent housing, in which an axially displaceable annular brush

seal seals against a tapered, radially outer surface of the shaft. This arrangement provides a brush seal that is readily adjustable to provide a desired gap at initial installation, thereby avoiding the need for costly, highly precisely-dimensionally-controlled brush seal. The brush seal also may be quickly and easily adjusted to accommodate brush wear, etc., during the seal's life, thereby saving large maintenance costs and minimizing unprofitable machinery downtime. Specification at ¶¶ [0010]-[0012].

The Mayr Reference: As a first matter, the Applicants note that the Mayr reference does not disclose a sealing arrangement. As the title of this reference states, Mayr is directed to a "Process and Arrangement For Manufacturing Brush-Type Seals." The Abstract and the rest of the Specification confirm that there is no teaching of a seal arrangement. Rather, Mayr teaches a way to *prepare* brush bristles for *subsequent use* in a seal arrangement.

Mayr discloses an *annealing device* (7) which modifies a newly manufactured brush ring 1 having straight bristles 2 (Figs. 1, 2), by applying heat and rotational movement to bend the bristles to a desired angle and inner diameter (Figs. 3, 4). The annealing device 7 holds the to-be-modified brush rings in a fixed position with a holding ring 22 and spacer rings 24/25, and a clamping lid 23 which is secured by bolts 26. A shaft-like annealing arbor 8, which can be heated, rotated and moved axially, gradually bends the heated brush bristles as it passes through the fixed brush rings 4. In other words, the effective inner diameter of the seal elements is widened from a first value (A') to a second, desired value (C'). Once the rotating, axially moving, arbor conical

surface 31 has passed the uppermost seal element, the bristles 2 of all four seal elements are supported by the cylindrical surface 16 of the arbor 8, the arbor's motion can be stopped, the annealing device 7 can be cooled down, the arbor 8 can be removed, and finally the seal elements can be separated from the annealing device 7. Mayr therefore does not disclose a sealing arrangement for sealing a gap, as recited in the pending claims.

The Applicants further note that, contrary to the assertion in the Final Office Action, Mayr does not disclose the recited "first component being axially displaceable." The Final Office Action identifies retaining bolts 26 as "means for axial displacement and adjustment." April 6, 2007 Final Office Action at 3. As the Mayr specification makes clear, it is the *arbor* which is moved axially, not the first component "having a brush seal which is arranged fixedly in" it. *See, e.g.*, Mayr at 6:36-40 (arbor 8 rotated and axially moved by "driving devices 17"). In contrast, the retaining bolts 26 cannot provide *any* adjustment of the axial position of the first component – they are fixed to the first component, and force the brush rings to be held in a fixed position as the arbor 8 passes through the first component. The bolts 26 are only removed to permit removal of the brush rings after the arbor 8 has been withdrawn, *i.e.*, not during operation of components when a seal is to be maintained. Mayr at 7:10-15 ("... fastened thereon via screws 26 so that each brush-type seal 1 is held in the holding device 21 in a centered and firm manner"). Mayr therefore does not disclose the recited axially displaceable first component.

Because Mayr does not disclose the sealing arrangement recited in claims 1 and 3-5 for at least the foregoing reasons, these claims are patentable over the Mayr reference under § 102(b). Accordingly, reconsideration and withdrawal of the § 102(b) rejection is respectfully requested.

CONCLUSION


In view of the foregoing remarks, entry of the amendments to place the claims into condition for allowance, and issuance of a Notice of Allowance for claims 1 and 3-5 is respectfully requested.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #011235.55710US).

Respectfully submitted,

June 5, 2007



Robert L. Grabarek, Jr.  
Registration No. 40,625  
Mark H. Neblett  
Registration No. 42,028

CROWELL & MORING LLP  
Intellectual Property Group  
P.O. Box 14300  
Washington, DC 20044-4300  
Telephone No.: (202) 624-2500  
Facsimile No.: (202) 628-8844